

Appl. No. 09/998,904  
Amdt. dated Oct. 10, 2006  
Reply to Office Action of Apr. 10, 2006

### REMARKS/ARGUMENTS

Claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204 are currently pending in the application. Claims 4, 8 and 54 have been cancelled without prejudice. Claims 11, 13-21, 23-36, 58-202 and 205-213 have been withdrawn without prejudice because they are drawn to a non-elected invention. Applicants respectfully request a three month extension of time to respond to the Office action of April 10, 2006 until October 10, 2006. Applicant encloses a completed credit card authorization form in the amount of \$510 for the three month extension. Applicant respectfully submits that no additional fees are due at this time.

Applicants respectfully submit that the foregoing amendments to the claims are supported in the application as originally filed and that no new matter has been added. In view of the following remarks and amendments, applicants respectfully request a timely Notice of Allowance be issued in this case.

#### *Claim Rejections under 35 U.S.C. § 112, First Paragraph (New Matter)*

Claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204 were rejected under 35 U.S.C. § 112, first paragraph, for containing subject matter which was not described in the specification to enable one skilled in the art to recognize that the inventor(s) had possession of the claimed invention at the time the application was filed.

The Office asserts that claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204 contain new matter because neither the prior art nor the specification disclose: (1) comparison or matrices of "groups" of nucleic acids wherein a group comprises any number other than three bases (i.e., a codon or triplet); and (2) identifying a location (position) of a variation in a nucleic acid sequence or genome, etc. where a SNP is likely to occur. Applicants traverse the rejection for the following reasons.

Applicants respectfully submit that paragraph 61 of the specification discloses the use of groups or sets of nucleic acids that contain more than three bases. More specifically, paragraph 61 discloses the use of four bases (i.e., a "super codon"). As a result, Applicants respectfully submit that a group containing three or more bases is adequately disclosed in the specification and does not constitute new matter. One skilled in the art would recognize that present invention uses a codon as a group or a frame of reference and that more or less than three bases (codon) could be used. Moreover, the specification discloses that increasing the number of bases in the set or group into the mutation statistical analysis increases the total number of mutation classes and may dilute the data (paragraph 61). The specification adequately teaches the steps and statistical methodology "to create a matrix of mutation classes ranked by predictiveness dependant on the global properties of *any* mutation database" (paragraph 70). Based on the detailed examples and methodology disclosed in the specification, Applicants respectfully submit

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that one skilled in the relevant art would recognize that the inventor(s) had possession of the claimed invention at the time the application was filed.

Applicants have amended the claims 1, 203 and 204 to clarify that one or more locations are identified in the sequence where a variation or single nucleotide polymorphism will likely occur based on the assigned variation value. The Examiner stated that this language was supported by the specification (Office Action: page 4, lines 6-8).

For each reason described above, Applicants respectfully submit that the claims are fully comply with the written description requirement under 35 U.S.C. § 112, first paragraph. Accordingly, Applicants request the withdrawal of the rejections and allowance of all pending claims.

***Claim Rejections under 35 U.S.C. § 112, First Paragraph (Enablement)***

Claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204 were rejected under 35 U.S.C. § 112, first paragraph, for containing subject matter which was not described in the specification to enable one skilled in the art to make and/or use the invention.

The Office asserts that claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204 are not enabled because neither the prior art nor the specification teach how to identify the locations of variations where SNPs are likely to occur or that will likely cause a variation in one or more bases of a nucleic acid sequence. Applicants traverse the rejection for the following reasons.

Applicants have amended the claims 1, 203 and 204 to clarify that one or more locations are identified in the sequence where a variation or single nucleotide polymorphism will likely occur based on the assigned variation value. The Examiner stated that this language was supported by the specification (Office Action: page 4, lines 6-8) and suggested that such language might be allowable (Office Action: page 5, lines 18-20).

For each reason described above, Applicants respectfully submit that the claims are fully comply with the enablement requirement under 35 U.S.C. § 112, first paragraph. Accordingly, Applicants request the withdrawal of the rejections and allowance of all pending claims.

***Claim Rejections under 35 U.S.C. § 112, Second Paragraph***

Claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204 were rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

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The Office asserts that claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204 are indefinite because the step/code for identifying the location of a variation in one or more bases of a nucleic acid sequence where SNPs will likely occur does not make sense. Applicants traverse the rejection for the following reasons.

Applicants have amended the claims 1, 203 and 204 to clarify that one or more locations are identified in the sequence where a variation or single nucleotide polymorphism will likely occur based on the assigned variation value. The Examiner stated that this language was supported by the specification (Office Action: page 4, lines 6-8) and suggested that such language might be allowable (Office Action: page 6, lines 17-19). In addition, claim 57 has been amended to correct the element having insufficient antecedent.

For each reason described above, Applicants respectfully submit that the claims distinctly claim the invention are required by 35 U.S.C. § 112, second paragraph. Accordingly, Applicants request the withdrawal of the rejections and allowance of all pending claims.

### *Conclusion*

Applicants respectfully submit that claims 1-3, 5-7, 9-10, 12, 22, 37-42, 44-53, 56-57 and 203-204, as amended, are fully patentable. Applicants respectfully request that a timely Notice of Allowance be issued in this case. If the examiner has any questions or comments, or if further clarification is required, it is requested that the examiner contact the undersigned at the telephone number listed below.

Respectfully submitted,

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I certify that this paper is being transmitted via facsimile to the USPTO at (571) 273-8300 under 37 CFR 1.8 on the date indicated above.
 Daniel J. Chalker